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Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.
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Anmelder/Applicant/Demandeur/Patentinhaber/Propriétaire/Titulaire
STMicroelectronics S.r.l.

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☐ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract: 7

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 058 316 A (ST MICROELECTRONICS SRL) 6 December 2000 (2000-12-06) * figures 5,7,8 *	1-6,8-11	H01L29/08 H01L29/10 H01L29/78 H01L29/06
Y	EP 0 810 671 A (FUJI ELECTRIC CO LTD) 3 December 1997 (1997-12-03) * figure 17 *	1-6,8-12	
Y	PATENT ABSTRACTS OF JAPAN vol. 013, no. 312 (E-788), 17 July 1989 (1989-07-17) & JP 01 084671 A (HITACHI LTD), 29 March 1989 (1989-03-29) * abstract *	1-12	
Y	WO 99 33119 A (KONINKL PHILIPS ELECTRONICS NV ; PHILIPS SVENSKA AB (SE)) 1 July 1999 (1999-07-01) * figures 2,3B *	1,7,8,12	
A	US 2001/050383 A1 (HATADE KAZUNARI ET AL) 13 December 2001 (2001-12-13) * figures 1,2 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	PATENT ABSTRACTS OF JAPAN vol. 011, no. 384 (E-565), 15 December 1987 (1987-12-15) & JP 62 150770 A (FUJI ELECTRIC CO LTD), 4 July 1987 (1987-07-04) * abstract *	1	H01L
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 5 August 2003	Examiner Juh1, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 42 5099

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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05-08-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 1058316	A	06-12-2000	EP	1058316 A1	06-12-2000
EP 0810671	A	03-12-1997	JP	3209091 B2	17-09-2001
			JP	9321290 A	12-12-1997
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JP 01084671	A	29-03-1989	NONE		
WO 9933119	A	01-07-1999	EP	0970526 A2	12-01-2000
			WO	9933119 A2	01-07-1999
			JP	2001512629 T	21-08-2001
US 2001050383	A1	13-12-2001	JP	2001352061 A	21-12-2001
			CN	1328345 A	26-12-2001
			DE	10127391 A1	17-01-2002
			FR	2810160 A1	14-12-2001
JP 62150770	A	04-07-1987	JP	2700025 B2	19-01-1998



This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

The attached opinion reveals that the application or the invention to which it relates appear not to meet the requirements of the Convention (see comments on enclosed Form 2906).

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.

1. The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-1058316

D2: EP-A-0810671

D3: JP(A) 01084671

D4: WO-A-9933119.

2. The present application does not meet the requirements of Article 52(1) EPC.

D1 discloses in Figs.5,7,8 an MOS power device with a strip-like source/body structure and with highly doped source and body contact regions. The subject-matter of claims 1-6 and 8-11 is not new in the sense of Article 54(1) and (2) EPC.

3. In addition, the subject-matter of claims 1-12 does not involve an inventive step in the sense of Article 56 EPC in view of D2, D3 and D4.

3.1 D2 discloses in Figs.17 an MOS power device with a strip-like source/body structure and with highly doped body contact regions. The subject matter of claims 1 and 8 differs from that of D2 in that an n+/n source structure is claimed. Such a structure is however suggested in D3. It fall within routine competence of a skilled person to replace the source in D2 by that disclosed in D3 in order to restrain the latch-up phenomenon as noted in the abstract in D3.

3.2 The additional features of claims 2-6 and 9-11 are known from D2 and cannot therefore contribute to inventive step.

3.3 Subject matter of claims 1 and 8 does not involve an inventive step in view of D4 (cf. Fig.3B) and D3 for the same reason as noted in section 3.1 of this communication.

The additional subject matter of claims 7 and 12 are known from D4 (Fig.3B) and cannot therefore contribute to inventive step.

4. It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 29(1) EPC. The applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof.

4.1 When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

4.2 To meet Rule 29(1) EPC the independent claims should be drafted in the two-part form with those features known in combination from the prior art (D1, D2 or D4) being placed in the preamble (Rule 29(1)(a) EPC) and with the remaining features being included in the characterising part (Rule 29(1)(b) EPC).

4.3 To meet the requirements of Rule 27(1)(b) EPC, the documents D1-D4 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.